

What is claimed is:

1. An EUV light source which comprises:  
an X-ray tube having a primary target; and  
a secondary target adapted to be irradiated with X-rays emitted from the  
5 X-ray tube;  
wherein fluorescence X-rays selected from the group consisting of Be-K $\alpha$  line, Si-L line and Al-L line are emitted from the secondary target.
2. The EUV light source as claimed in Claim 1, wherein the X-rays emitted from the X-ray tube excite electrons of a Si-K shell, which in turn  
10 generate Si-L line by cascade excitation.
3. The EUV light source as claimed in Claim 1, wherein an oxide film on a surface of the secondary target is removed.
4. The EUV light source as claimed in Claim 1, further comprising a poly-capillary for concentrating the X-rays emitted from the X-ray tube before  
15 they are projected onto the secondary target.
5. The EUV light source as claimed in Claim 1, further comprising an artificial multilayer mirror or a total reflection mirror and wherein X-rays generated from the secondary target are monochromated into the single fluorescence X-rays by means of the artificial multilayer mirror or the total  
20 reflection mirror.